(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 26 May 2005 (26.05.2005)

PCT

(10) International Publication Number WO 2005/046439 A2

(51) International Patent Classification7:

A61B

(21) International Application Number:

PCT/US2004/036933

(22) International Filing Date:

5 November 2004 (05.11.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/518,122

7 November 2003 (07.11.2003) US

- (71) Applicant (for all designated States except US): NXSTAGE MEDICAL, INC. [US/US]; 439 South Union Street, Fifth Floor, Lawrence, MA 01843 (US).
- (72) Inventors: BRUGGER, James; 4 Savory Street, Newburyport, MA 01950 (US). McDOWELL, Christopher, S.; 3 Carriage Lane, Maryland, MA 01754 (US).
- (74) Agents: CATAN, Mark, A. et al.; Proskauer Rose LLP, 1585 Broadway, New York, NY 10036 (US).

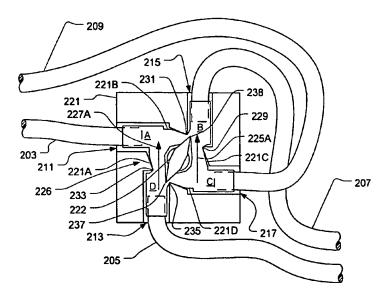
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, IP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: IMPROVED METHODS AND APPARATUS FOR LEAK DETECTION IN BLOOD PROCESSING SYSTEMS



(57) Abstract: A blood processing system includes a flow reversing device with at least an air sensor in the venous line located near the patient. During treatment, blood flow is reversed to cause air to infiltrate the blood lines if any disconnections or breaks in the blood line are present. One means for placing the sensor close to the patient is to provide the flow switching device and sensors in a small lightweight module that can be located close the treatment machine. Another is to provide a module with just the sensors near the access.

05/046439 A2 ||||||||||||



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.